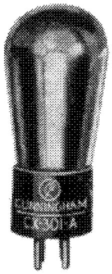
Cunningham RADIO TUBES

CX-301-A



DETECTOR, AMPLIFIER

The '01-A is a three-electrode storage battery tube for use as a detector and as an amplifier.

CHARACTERISTICS

Filament Voltage (D. C.)		5.0	Volts
Filament Current		0.25	Ampere
Plate Voltage	90	135 *max.*	Volts
Grid Voltage	−4.5	−9	Volts
Plate Current	2.5	3.0	Milliamperes
Plate Resistance	11000	10000	Ohms
Amplification Factor	8	8	
Mutual Conductance	725	800	Micromhos
Grid-Plate Capacitance		8.1	μμf.
Grid-Filament Capacitance		3.1	μμf.
Plate-Filament Capacitance		2.2	μμf.
Maximum Overall Length			4 11/16"
Maximum Diameter			1 13/16"
Bulb (See page 42, Fig. 8)			S-14
Base			Medium 4-Pin

INSTALLATION

The **base** pins of the '01-A fit the standard four-contact socket. The socket should be installed so that the tube will operate in a vertical position. Cushioning of the socket in the detector stage may be desirable if microphonic disturbances are encountered. For socket connections, see page 39, Fig. 1.

The **filament** in the '01-A is intended for operation from a 6-volt storage battery. A fixed or variable resistor of suitable value is required to reduce the battery voltage to 5.0 volts across the filament terminals at the socket. At this voltage, the most satisfactory operating performance will be obtained.

APPLICATION

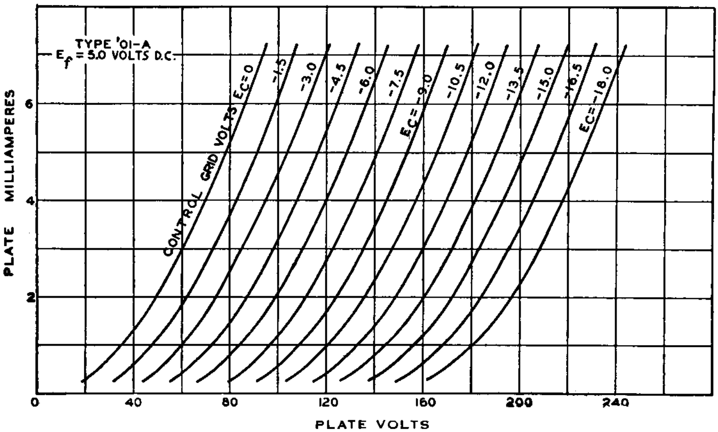
As a **detector**, the '01-A may be operated either with grid leak and condenser or with grid bias. The recommended plate voltage for the former method is 45 volts. A grid leak of from 1 to 5 megohms used with a grid condenser of 0.00025 μf. is suitable. The grid circuit return should be connected to the positive filament terminal. For grid bias detection, plate voltages up to the maximum value of 135 volts may be used with the corresponding negative grid bias voltage (13.5 volts approximately).

As an **amplifier**, the '01-A is applicable to the audio- or the radio-frequency stages of a receiver. Plate voltages and the corresponding grid voltages for audio amplifier service should be determined from the tabulated characteristics and the curves in order to obtain optimum performance and freedom from distortion. The higher plate voltages will be found advantageous under conditions where the impressed signal is large or where maximum voltage output is desired.

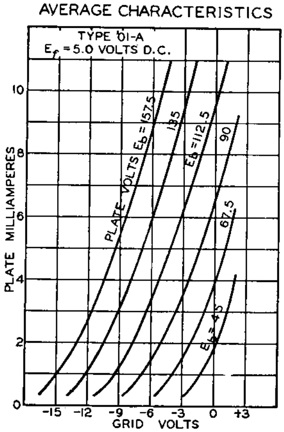
When the '01-A is used as a radio-frequency amplifier, little is gained from the use of plate voltages exceeding 90 volts. The '01-A is well adapted for use as an interstage audio-frequency amplifier but a power output tube is recommended for the final audio stage.

Volume control of the receiver may be accomplished by variation of either the grid bias or the plate voltage applied to the radio-frequency stages.

AVERAGE PLATE CHARACTERISTICS



AVERAGE CHARACTERISTICS



AVERAGE CHARACTERISTICS

